

CONSTRUCTION: JOINING OF PIPES BY WELDING

Issued: 1-31-2008 Revised: 4-8-2021 Number: 7BH Page:

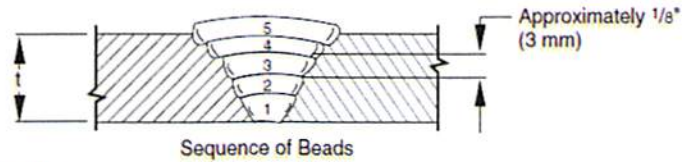
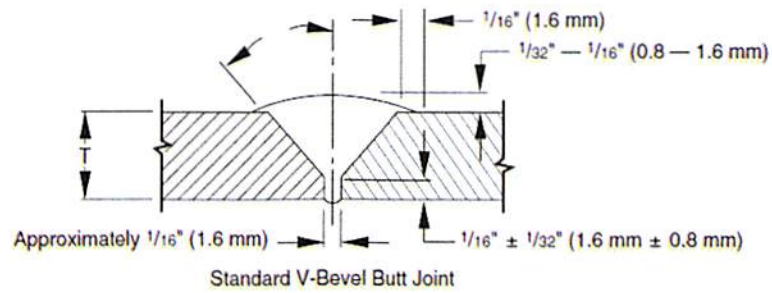
STANDARD WELDING PROCEDURE SPECIFICATION #7BH

- A. Process: Manual Electric Arc
- B. Material: API-5L Grade A25 thru X42
- C. Diameter and Wall Thickness: 2 3/8 thru 6 5/8 and .188 thru 0500 WT
- D. Joint Design: Standard Vee Groove 30 degrees
- E. Filler Metal and Number of Beads: Electrode Classification
Electrode E6010 and E8010 AWS Class A5.1—A5.5 Minimum of 3 Passes
- F. Electrical or Flame Characteristics: D.C. Reverse Polarity, Electrode Positive
- G. Position: Fixed Horizontal
- H. Direction of Welding: Vertical Down
- I. Number of Welders: 1
- J. Time Lapse Between Passes: Maximum of 5 minutes between stringer and hot pass;
3 minutes maximum when temperature is below 35° F.
- K. Type of Line-Up Clamp: External
- L. Removal of Line-Up Clamp: After 50% completion of stringer bead
- M. Cleaning: Taper grind starts and craters and flatten crown by grinding stringer bead,
power buff all remaining passes.
- N. Speed of Travel: String bead 10 inches per minute maximum.
- O. *Preheat, Stress Relief: Maximum of 300°F. Minimum of 150°F. Preheating shall
be done with device or equipment which will heat entire circumference(s) in single
application 2" back from pipe ends.
- P. Notes: Welded pipe strings shall be temporarily capped to prevent air draft cooling
of stringer beads. Weld shall be completely protected from moisture until it has
cooled to ambient temperature. Weld zone shall be protected so that the wind
velocity near it does not exceed 8 miles per hour.

*X-Rated pipe must be stress relief if the carbon content exceeds .32% or C+1/4 Mn exceeds .65%. Heating of X-Rated pipe is limited to 600°F.

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Note: Dimensions are for example only.

Bead No.	Electrode Diameter	Amperage Range	Voltage Range	Type Rod	Notes
1**	1/8	95-110	20-30	E6010 5P+	
2	1/8	105-115	25-38	E8010 70+	
3	1/8	105-120	25-40	E8010 70+	
4	5/32	105-135	20-38	E8010 70+	If Needed
5					

Bead No.	Notes
	Electrodes may be substituted within Rod group AWS A5.1—A5.5
**	Stringer bead on .188 may be made with 3/32 E6010 5P+ at 60-90 Amps and in the 20-30 volt range

WELD TEST REPORT

(USE SEPARATE FORM FOR EACH WELDING PROCEDURE)

DATE <i>1-31-08</i>		WELDER'S NAME <i>Jimmie Moore</i>			SOCIAL SECURITY NUMBER <i>1536</i>			
LOCATION <i>Gayman</i>		NAME OF CONTRACTOR OR COMPANY <i>West Texas Gas</i>		RIGHT HANDED <input checked="" type="checkbox"/>	LEFT HANDED <input type="checkbox"/>	REQUALIFYING TEST <input checked="" type="checkbox"/>	QUALIFYING TEST <input type="checkbox"/>	LINE TEST <input type="checkbox"/>
POSITION INCLINED <input type="checkbox"/> FIXED <input checked="" type="checkbox"/> HORIZONTAL <input checked="" type="checkbox"/>	ELECTRIC ARC <input checked="" type="checkbox"/> INDOORS <input type="checkbox"/>	OX-ACETYLENE <input type="checkbox"/> OUTDOORS <input type="checkbox"/>	WEATHER	TEMPERATURE	TIME OF DAY	WIND BREAK USED		
PIPE SPECIFICATION <i>APE 54-60 1/2</i>	PIPE MANUFACTURER <i>Republic</i>		WALL THICKNESS <i>.280</i>		DIAMETER (OD) <i>6 5/8</i>		WEIGHT PER FOOT <i>18.97</i>	
MAKE OF WELDING MACHINE <i>Lid.</i>	SIZE <i>350</i>	MAKE OF OX-ACETYLENE APPARATUS	WELDING NOZZLE SIZE		OX-ACETYLENE PRESSURE FLOWING			
BRAND OF ELECTRODE <i>Lid.</i>		BRAND OF OX-ACETYLENE ROD AND SIZE		NUMBER OF PASSES - OX-ACETYLENE WELD			WELDING PROCEDURE NO. QUALIFYING TEST FOR <i>7-BH</i>	

	ELECTRODE TYPE AND SIZE	MACHINE SETTINGS		AMPERAGE RG.	VOLTAGE RG.
		COARSE	FINE		
PIPE WELD	STRINGER <i>1/8 Lin 5PT</i>	<i>120-190</i>	<i>40</i>	<i>95-110</i>	<i>20-30</i>
	HOT PASS <i>1/8 Lin 70T</i>	<i>120-190</i>	<i>50</i>	<i>105-115</i>	<i>24-40</i>
	FILLER (S) <i>1/8 Lin 70T</i>	<i>120-190</i>	<i>55</i>	<i>105-120</i>	<i>25-40</i>
	CAP PASS <i>1/8 Lin 70T</i>	<i>120-190</i>	<i>60</i>	<i>105-135</i>	<i>25-35</i>

TENSILE TESTS	COUPON			CROSS SEC. AREA SQ. IN.	LOAD	% ELONG.	COMPUTED TENSIL PSI	REMARKS	AC-CEPTED	RE-JECTED
	LOCATION	LENGTH	WIDTH							
1	<i>T1</i>	<i>8"</i>	<i>1"</i>	<i>.280</i>	<i>17,500</i>	<i>20%</i>	<i>60714</i>	<i>no defect</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	<i>B1</i>	<i>8"</i>	<i>1"</i>	<i>.280</i>	<i>17,500</i>	<i>20%</i>	<i>60714</i>	<i>no defect</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3										
4										

This weld has been visually and ultrasonically tested in accordance with ASME B31.104

BEND TESTS	COUPON LOCATION	TYPE OF BEND	REMARKS	AC-CEPTED	RE-JECTED
	1	<i>R1</i>	<i>Root</i>	<i>No defect</i>	<input checked="" type="checkbox"/>
2	<i>R2</i>	<i>Root</i>	<i>small 1/32 opening</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	<i>F1</i>	<i>Face</i>	<i>No defect</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	<i>F2</i>	<i>Face</i>	<i>No defect</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

NICK-BREAK TESTS	COUPON LOCATION	REMARKS	AC-CEPTED	RE-JECTED
	1	<i>N1</i>	<i>Clear Gray Metal</i>	<input checked="" type="checkbox"/>
2	<i>N2</i>	<i>" " "</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3				
4				

SIZE AND WALL THICKNESS OF MAIN		GAS PRESSURE ON MAIN PSIG		LOCATION OF FRACTURE WELD <input type="checkbox"/> NIPPLE <input type="checkbox"/> MAIN <input type="checkbox"/>		
DID WELD CONTAIN: PINHOLES		COLDROLL	UNDERCUT	DEPTH OF UNDERCUT		LENGTH OF UNDERCUT
REMARKS ON TEE WELD						

PIPE WELD	QUALIFIED <input checked="" type="checkbox"/> NOT QUALIFIED <input type="checkbox"/>	ELECTRIC ARC <input checked="" type="checkbox"/> OX-ACETYLENE <input type="checkbox"/>	TEE WELD	QUALIFIED <input type="checkbox"/> NOT QUALIFIED <input type="checkbox"/>	ELECTRIC ARC <input type="checkbox"/> OX-ACETYLENE <input type="checkbox"/>
TESTED BY	SIGNATURE <i>Russell Sanford</i>			TITLE <i>Plant Mgr.</i>	